

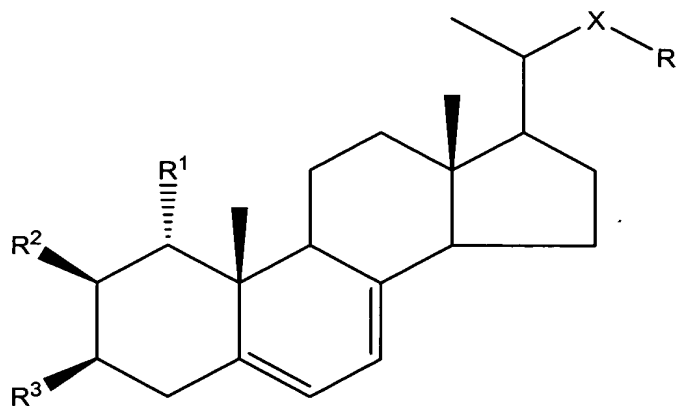
IN THE CLAIMS

Please amend the claims as follows:

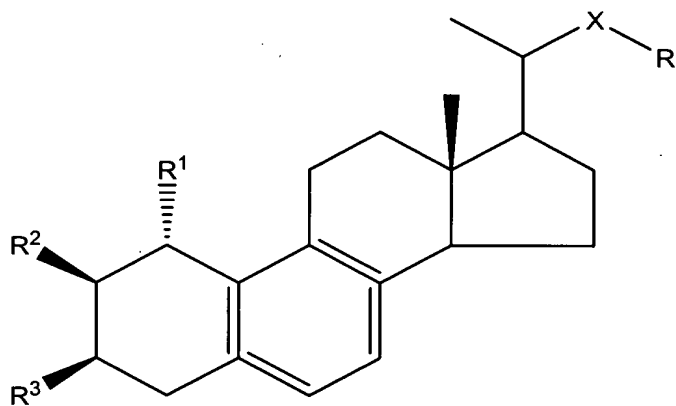
Claims 1-10 (canceled)

Claim 11 (original): A process for preparing a vitamin D derivative, comprising:
using an ultraviolet irradiation apparatus for photochemical reactions, which
comprises an ultraviolet radiation-emitting lamp, an optical system on which light from the
ultraviolet radiation-emitting lamp is struck, and which emits ultraviolet rays having a
specific wavelength, and a quartz rod on which the ultraviolet rays having the specific
wavelength from the optical system are struck, irradiating a solution of a provitamin D
derivative with the ultraviolet rays having the specific wavelength emitted from the quartz
rod of the ultraviolet irradiation apparatus to cause a photochemical reaction to the
provitamin D derivative solution, thereby forming a previtamin D derivative;
and subjecting the previtamin D derivative to a thermal isomerization reaction to
prepare the vitamin D derivative.

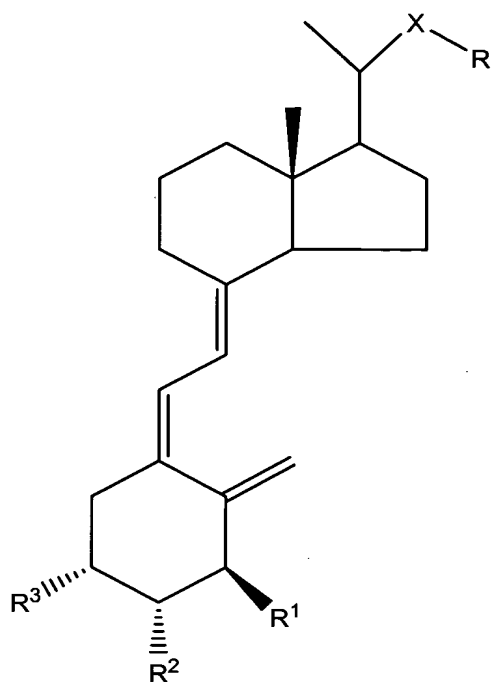
Claim 12 (original): The process according to Claim 11 for preparing the vitamin D
derivative, wherein the provitamin D derivative is a compound represented by the following
general formula 1, the previtamin D derivative is a compound represented by the following
general formula 2, and the vitamin D derivative is a compound represented by the following
general formula 3.



General Formula 1



General Formula 2



General Formula 3

wherein R¹ and R³ individually mean a hydrogen atom or a hydroxyl group which may have a protecting group, R² denotes a hydrogen atom, a hydroxyl group which may have a protecting group, a lower alkoxy group having 1 to 10 carbon atoms which may be substituted or a lower alkyl group having 1 to 10 carbon atoms which may be substituted, R is a hydrogen atom or a lower alkyl group having 1 to 10 carbon atoms which may be substituted, and X represents

-O-CH₂-, -S-CH₂-, -CH₂-CH₂-, -CH=CH- or -N(R⁴)-CH₂-, in which R⁴ means a hydrogen atom or a lower alkyl group having 1 to 10 carbon atoms which may be substituted.

Claim 13 (original): A process for preparing a vitamin D derivative, comprising irradiating a solution of a provitamin D derivative represented by the general formula 1 according to Claim 12 with ultraviolet rays having a specific wavelength emitted from the ultraviolet irradiation apparatus for photochemical reactions according to Claim 11 to cause a

photochemical reaction of the previtamin D derivative solution, thereby forming a previtamin D derivative represented by the general formula 2 according to Claim 12.

Claim 14 (original): The preparation process according to Claim 12, wherein in the general formulae 1, 2 and 3, R^3 is a hydroxyl group, and X is $-O-CH_2-$.

Claim 15 (original): The preparation process according to Claim 14, wherein in the general formulae 1, 2 and 3, R^1 is a hydroxyl group.

Claim 16 (original): The preparation process according to Claim 15, wherein in the general formulae 1, 2 and 3, R^2 is a hydrogen atom.

Claim 17 (original): The preparation process according to Claim 16, wherein in the general formulae 1, 2 and 3, R is $-CH_2-C(CH_3)_2OH$.

Claim 18 (original): The preparation process according to Claim 16, wherein in the general formulae 1, 2 and 3, R is $-CH_2-CH(CH_3)_2$.

Claim 19 (original): The preparation process according to Claim 13, wherein in the general formulae 1 and 2, R^3 is a hydroxyl group, and X is $-O-CH_2-$.

Claim 20 (original): The preparation process according to Claim 19, wherein in the general formulae 1 and 2, R^1 is a hydroxyl group.

Claim 21 (original): The preparation process according to Claim 20, wherein in the general formulae 1 and 2, R^2 is a hydrogen atom.

Claim 22 (original): The preparation process according to Claim 21, wherein in the general formulae 1 and 2, R is $-CH_2-C(CH_3)_2OH$.

Claim 23 (original): The preparation process according to Claim 21, wherein in the general formulae 1 and 2, R is $-CH_2-CH(CH_3)_2$.

Claim 24 (original): The preparation process according to Claim 12, wherein in the general formulae 1, 2 and 3, R^3 is a hydroxyl group, and X is $-CH_2CH_2-$.

Claim 25 (original): The preparation process according to Claim 24, wherein in the general formulae 1, 2 and 3, R^1 is a hydroxyl group.

Claim 26 (original): The preparation process according to Claim 25, wherein in the general formulae 1, 2 and 3, R^2 is a hydrogen atom.

Claim 27 (original): The preparation process according to Claim 25, wherein in the general formulae 1, 2 and 3, R^2 is a hydroxypropoxy group.

Claim 28 (original): The preparation process according to Claim 26, wherein in the general formulae 1, 2 and 3, R is $-\text{CH}_2-\text{C}(\text{CH}_3)_2\text{OH}$.

Claim 29 (original): The preparation process according to Claim 26, wherein in the general formulae 1, 2 and 3, R is $-\text{CH}_2-\text{CH}(\text{CH}_3)_2$.

Claim 30 (original): The preparation process according to Claim 27, wherein in the general formulae 1, 2 and 3, R is $-\text{CH}_2-\text{C}(\text{CH}_3)_2\text{OH}$.

Claim 31 (original): The preparation process according to Claim 27, wherein in the general formulae 1, 2 and 3, R is $-\text{CH}_2\text{CH}(\text{CH}_3)_2$.

Claim 32 (original): The preparation process according to Claim 13, wherein in the general formulae 1 and 2, R^3 is a hydroxyl group, and X is $-\text{CH}_2-\text{CH}_2-$.

Claim 33 (original): The preparation process according to Claim 32, wherein in the general formulae 1 and 2, R^1 is a hydroxyl group.

Claim 34 (original): The preparation process according to Claim 33, wherein in the general formulae 1 and 2, R^2 is a hydrogen atom.

Claim 35 (original): The preparation process according to Claim 33, wherein in the general formulae 1 and 2, R^2 is a hydroxypropoxy group.

Claim 36 (original): The preparation process according to Claim 34, wherein in the general formulae 1 and 2, R is $-\text{CH}_2-\text{C}(\text{CH}_3)_2\text{OH}$.

Claim 37 (original): The preparation process according to Claim 34, wherein in the general formulae 1 and 2, R is $-\text{CH}_2-\text{CH}(\text{CH}_3)_2$.

Claim 38 (original): The preparation process according to Claim 35, wherein in the general formulae 1 and 2, R is $-\text{CH}_2-\text{C}(\text{CH}_3)_2\text{OH}$.

Claim 39 (original): The preparation process according to Claim 35, wherein in the general formulae 1 and 2, R is $-\text{CH}_2-\text{CH}(\text{CH}_3)_2$.

Claim 40 (original): The preparation process according to Claim 12, wherein in the general formulae 1, 2 and 3, R^3 is a hydroxyl group, and X is $-\text{CH}=\text{CH}-$.

Claim 41 (original): The preparation process according to Claim 40, wherein in the general formulae 1, 2 and 3, R^1 is a hydroxyl group.

Claim 42 (original): The preparation process according to Claim 41, wherein in the general formulae 1, 2 and 3, R^2 is a hydrogen atom.

Claim 43 (original): The preparation process according to Claim 42, wherein in the general formulae 1, 2 and 3, R is $-\text{CH}_2-\text{C}(\text{CH}_3)_2\text{OH}$.

Claim 44 (original): The preparation process according to Claim 42, wherein in the general formulae 1, 2 and 3, R is $-\text{CH}_2-\text{CH}(\text{CH}_3)_2$.

Claim 45 (original): The preparation process according to Claim 13, wherein in the general formulae 1 and 2, R_3 is a hydroxyl group, and X is $-\text{CH}=\text{CH}-$.

Claim 46 (original): The preparation process according to Claim 45, wherein in the general formulae 1 and 2, R^1 is a hydroxyl group.

Claim 47 (original): The preparation process according to Claim 46, wherein in the general formulae 1 and 2, R^2 is a hydrogen atom.

Claim 48 (original): The preparation process according to Claim 47, wherein in the general formulae 1 and 2, R is $-\text{CH}_2-\text{C}(\text{CH}_3)_2\text{OH}$.

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Inventor: Tadao MICHISHITA, et al.
Preliminary Amendment

Claim 49 (original): The preparation process according to Claim 47, wherein in the general formulae 1 and 2, R is $-\text{CH}_2-\text{CH}(\text{CH}_3)_2$.